



Directorate of  
Intelligence

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# **Science and Weapons Daily Review**

**Thursday  
7 March 1985**

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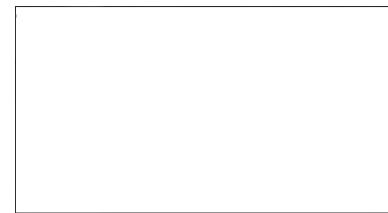
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**7 March 1985**

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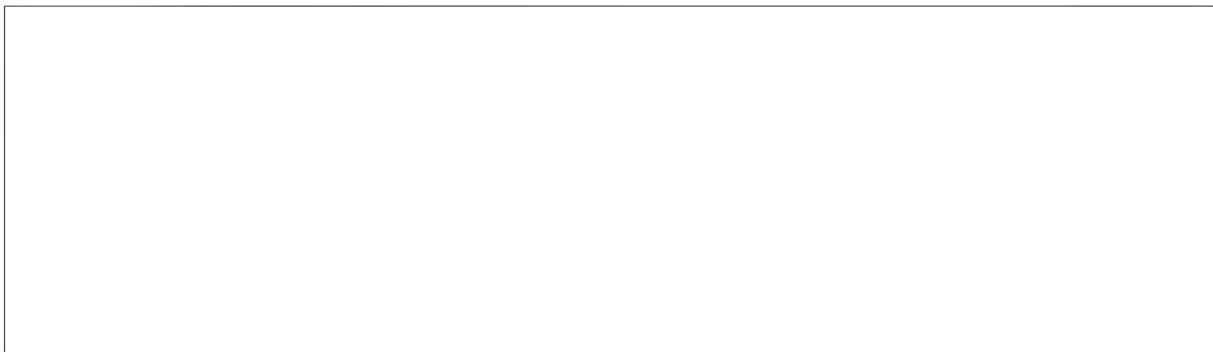
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25X1

## CONTENTS

7 MARCH 1985



25X6

3 USSR: CHEMICALS USED TO ENHANCE HUMAN PERFORMANCE [redacted] 25X1

[redacted] the Soviets are researching the use of chemical substances to increase the tolerance of some athletic and military personnel to variations in temperature and oxygen levels; a military application may be to increase resistance of pilots of high-performance aircraft to the symptoms of hypoxia [redacted]

25X1

25X1

4 KEY JUDGMENTS: IRAQ'S NUCLEAR PROGRAM: ACQUIRING A NUCLEAR FUEL CYCLE [redacted] 25X1

Israel's destruction of Iraq's principal research reactor in 1981 and war-related economic difficulties have not dampened Iraq's interest in enhancing its nuclear capabilities, skills, and facilities, but it is still at least a decade away from having facilities that could support nuclear weapons development. [redacted]

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Next 1 Page(s) In Document Denied



25X1

USSR: CHEMICALS USED TO ENHANCE HUMAN PERFORMANCE

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[redacted] chemical substances produced from plants are used to improve the mental and physical abilities of Soviet athletes and military personnel [redacted] the substances increase physical tolerance to varying temperatures and oxygen levels. The Moscow Institute of Physical Culture is a training facility for Olympic athletes and does major pharmacological research on performance enhancement. [redacted]

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Comment:

The report confirms [redacted] that Soviet pharmacological research includes the use of both conventional and new agents to improve the efficiency of military personnel. As the Soviets gain a better understanding of the effects of biochemical changes on human performance, we believe they will attempt to use the results of pharmacological research to solve performance problems in a variety of military functions. [redacted]

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One of the first military applications of the Soviet research may be to treat the symptoms of hypoxia in pilots of high-performance aircraft. The high g forces experienced during aircraft maneuvers can reduce blood flow, causing pilots to lose consciousness. Drugs that increase tolerance to low levels of oxygen could enable pilots to maintain control of aircraft longer by increasing their resistance to the symptoms such as loss of peripheral vision ("gray out") and impaired psychomotor functions. [redacted]

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KEY JUDGMENTS: IRAQ'S NUCLEAR PROGRAM: ACQUIRING A NUCLEAR FUEL CYCLE [redacted]

The following Key Judgments are reprinted from a recently published Research Paper produced by the Office Near Eastern and South Asian Analysis [redacted]

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Israel's destruction of Iraq's principal research reactor in 1981 and war-related economic difficulties have not dampened Iraq's interest in enhancing its nuclear capabilities, skills, and facilities. Iraq, however, is still at least a decade away from having nuclear facilities with the potential to support nuclear weapons development [redacted]

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Iraqi President Saddam Husayn has long advocated the development of an "Islamic bomb" that would give the Arab states strategic leverage over Israel. [redacted]

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In our view, Saddam also believes that development of a nuclear weapons capability would advance Iraq's security interests in the region. A nuclear capability would further Baghdad's goal of becoming the preeminent Arab state in the Persian Gulf and might serve as a long-term deterrent to a vengeful Iran [redacted]

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Despite Baghdad's interest in pursuing nuclear research, Iraq will have to depend on extensive foreign assistance and technology to master virtually all aspects of the nuclear cycle. Fear of losing access to vital foreign technology should inhibit any desire to violate international safeguards.



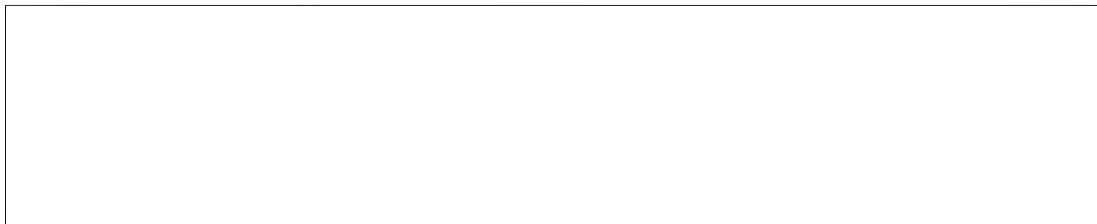
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We anticipate that, when its war with Iran ends, Baghdad will accelerate its efforts to complete a nuclear fuel cycle. Until then, we expect Baghdad to try to exploit the "gray market" to acquire nuclear materials and technology. Since 1980, Iraq has concentrated on using European intermediaries to buy otherwise unavailable US technology and on breaking down orders for equipment into subcomponents not subject to export controls in the European vendor countries. Although results have been mixed, we expect Baghdad to continue using these methods.



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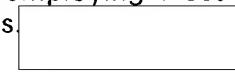
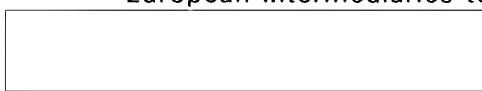
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Iraq's dogged pursuit of a nuclear fuel cycle will also impinge on US interests by:

-- Demonstrating that the gray market can be used to evade US efforts to promote tighter international controls over nuclear trade.

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-- Circumventing US export controls and policies by employing West European intermediaries to obtain US-origin goods.



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